



U.S. Department of Energy

~~Office of River Protection~~

0059894

P.O. Box 450

Richland, Washington 99352

JUL 28 2003

03-TOD-050

Mr. Michael A. Wilson, Program Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 W. Fourth Avenue
Kennewick, Washington 99336

RECEIVED
JUL 29 2003

EDMC

Dear Mr. Wilson:

TRANSMITTAL OF THE THIRD QUARTERLY REPORT FOR THE FISCAL YEAR (FY) 2003 IN SUPPORT OF THE SINGLE-SHELL TANK (SST) INTERIM STABILIZATION (IS) CONSENT DECREE

This letter provides the third quarterly report and data (Attachment 1) for FY 2003 submitted in compliance with the quarterly reporting requirements, and internally noted as Milestone D-001-00-R17. This report is required by the SST IS Consent Decree No. CT-99-5076-EFS, filed with the U.S. District Court on September 30, 1999.

Key project accomplishments during the third quarter of FY 2003 include the following:

- Tank 241-AX-101 was interim stabilized and placed in evaluation on May 2, 2003, to confirm that interim stabilization criteria have been met;
- Tank 241-SX-101 was interim stabilized and placed in evaluation on April 27, 2003, to confirm that interim stabilization criteria have been met;
- Tank 241-SX-103 was interim stabilized on September 17, 2002. The final confirmation data for Tank 241-SX-103 was completed on May 30, 2003, and final data was provided to the State of Washington Department of Ecology;
- The "Interim Stabilization Evaluation Form" confirming satisfaction of interim stabilization criteria for Tank 241-U-111 was completed on June 24, 2003, and is being evaluated by the U.S. Department of Energy, Office of River Protection;
- The annual update to the tank liquid waste volume estimate was made and issued as Revision 5 of HNF-2978, Updated Pumpable Liquid Volume Estimates and Jet Pump Durations for IS of Remaining SSTs;
- The saltwell pump was replaced in Tank 241-U-108 and pumping operations resumed; and
- A "trenchless" Hose-In-Hose Transfer Line (HIHTL) design was implemented, greatly reducing the time and expense associated with HIHTL installations.

Other accomplishments are listed in the attached quarterly report for the third quarter of FY 2003.

The total waste volumes transferred during the third quarter and since the start of pumping in June 1998 were over 130,000 gallons and over 3.0 million gallons, respectively.

M. A. Wilson
03-TOD-050

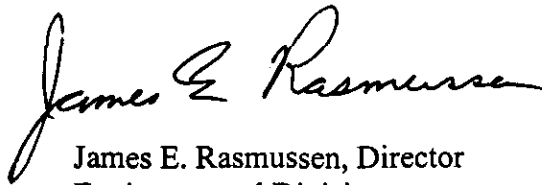
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JUL 28 2003

There was one letter of direction sent to the Contractor during this quarter, "Authorization and Direction to Proceed," O3-TPD-043, dated April 21, 2003 (Attachment 2).

If you have any questions, please contact me, or your staff may contact Andrew Stevens, Tank Farms Programs and Projects Division, (509) 376-8235.

Sincerely,



James E. Rasmussen, Director
Environmental Division

TOD:AJS

Attachments: (2)

cc w/attachs:

D. I. Allen, CH2M HILL
W. T. Dixon, CH2M HILL
R. A. Dodd, CH2M HILL
J. G. Field, CH2M HILL
S. B. Fowler, CH2M HILL
M. N. Jarayssi, CH2M HILL
F. R. Miera, CH2M HILL
M. A. Payne, CH2M HILL
R. Gay, CTUIR
M. J. Zevenbergen, DOJ
J. Lyon, Ecology
D. G. Singleton, Ecology
R. F. Stanley, Ecology
D. Bartus, EPA c/o Ecology
M. L. Goldstein, EPA
J. S. Hertz, FHI
O. S. Kramer, FHI
T. Martin, HAB
P. Sobotta, NPT
K. Niles, Oregon Energy
E. M. Mattlin, RL
R. Jim, YN
TPA Administrative Record
Environmental Portal, LMSI

INTERIM STABILIZATION REPORT FOR THE THIRD QUARTER OF FISCAL YEAR (FY) 2003

ITEM 1: ACCOMPLISHMENTS AND ISSUES

Third Quarter FY 2003 Accomplishments

- Tank 241-AX-101 was interim stabilized and placed “in evaluation” on May 2, 2003, to confirm that interim stabilization criteria have been met. Tank 241-A-101 is still available for pumping with a projected completion date of September 28, 2003. This partially completes target D-001-06-T01, which covers both these tanks.
- Tank 241-SX-101 was interim stabilized and placed “in evaluation” on April 27, 2003, to confirm that interim stabilization criteria have been met. Tank 241-SX-103 was interim stabilized on September 17, 2002. The “Interim Stabilization Evaluation Form” confirming satisfaction of interim stabilization criteria for Tank 241-SX-103 was completed on May 30, 2003, and final data was provided to the State of Washington Department of Ecology (Ecology). This completed target D-001-08-T01.
- The “Interim Stabilization Evaluation Form” confirming satisfaction of interim stabilization criteria for Tank 241-U-111 was completed on June 24, 2003 and is being evaluated by U.S. Department of Energy, Office of River Protection (ORP). Tank 241-S-109 was interim stabilized on June 11, 2001. Tank 241-S-112 has transitioned from interim stabilization to accelerated retrieval operations. Tanks 241-S-101 and 241-S-107 continue to be pumped with projected completion dates of May 31, 2004, and October 8, 2003, respectively. These tanks are tracked by target D-001-13-T01, “Complete Pumping of U-111, S-109, S-112, S-101, and S-107.”
- The annual update to the tank liquid waste volume estimate was made and issued as Revision 5 of HNF-2978, Updated Pumpable Liquid Volume Estimates and Jet Pump Durations for Interim Stabilization of Remaining Single-Shell Tanks (SSTs). This document uses best available information as of April 1, 2003, to provide updated estimates of total pumpable liquids originally contained in the 29 Consent Decree tanks as of June 1, 1998. Revised estimates of pumpable liquid remaining in the unstabilized SSTs and a projection of pumping durations are also provided.
- Completed updates to target projections for early completion of the 2 percent pumpable liquid remaining Consent Decree Milestone D-001-00V by September 1, 2003, starting with May 1, 2003, pumping volumes. Consent Decree Milestone D-001-00V is due September 30, 2003. The target projections reflect removal of Tanks 241-S-102 and 241-S-112 from interim stabilization calculations due to their transition to retrieval operations, the latest pumpable liquid volume and pumping duration estimates from Revision 5 of HNF-2978, and the latest data on waste drainage characteristics for the remaining unstabilized tanks.
- Completed Consent Decree Milestone D-001-00-R16, “Interim Stabilization Report for the Second Quarter of FY 2003.” This quarterly report was issued from ORP to Ecology on April 29, 2003, under ORP letter 03-TPD-046.

- Completed the S-Farm Complex outage to support installation of the Tank 241-S-112 retrieval system. Accelerated retrieval of Tank 241-S-112 is currently scheduled for completion by September 30, 2003.
- Replaced the saltwell pump in Tank 241-U-108 and resumed pumping operations.
- Implemented a "trenchless" Hose-In-Hose Transfer Line (HIHTL) design, greatly reducing the time and expense associated with HIHTL installations.
- Completed several transfers of wastes from the 244-BX Double-Contained Receiver Tank (DCRT) to the Double-Shell Tank (DST) system and resumed pumping operations in Tank 241-BY-106.
- Transferred approximately 138,000 gallons of waste out of the SST system and into the DST system during the third quarter of FY 2003. The total volume of waste transferred during FY 2003, through the third quarter, was approximately 499,000 gallons. The total volume of waste transferred since the start of pumping in June 1998 through the third quarter of FY 2003 was approximately 2,948,000 gallons (excluding Tanks 241-S-102 and 241-S-112). There are about 122,000 gallons of probable pumpable liquid remaining in unstabilized SSTs or approximately 4 percent of the originally estimated probable pumpable liquid volume. Approximately 60,000 gallons of waste need to be pumped from unstabilized SSTs to reach the 2 percent pumpable liquid remaining milestone by September 30, 2003, as required by Consent Decree Milestone D-001-00V.

Six-Month Look Ahead

- Complete Consent Decree Milestone D-001-00V, "The Percentage of Pumpable Liquid Remaining to be Removed will be Equal to or Less Than 2% of Total Liquid," by September 30, 2003.
- Complete public review and comment on the decision to transition Tanks 241-S-102 and 241-S-112 from interim stabilization to retrieval operations. Direction to the Contractor was provided by ORP letter 03-TPD-043, "Authorization and Direction to Proceed," dated April 21, 2003.
- Complete interim stabilization evaluation forms for Tanks 241-AX-101, 241-C-103, and 241-SX-101, and confirm that the tanks meet interim stabilization criteria. These tanks have been interim stabilized and are "in evaluation."
- Complete interim stabilization pumping in five additional tanks (241-A-101, 241-BY-106, 241-S-107, 241-SX-102, and 241-U-107) and initiate interim stabilization evaluation forms to confirm that interim stabilization criteria have been met.
- Complete non-enforceable Consent Decree Target D-001-09-T01, "Complete Pumping of Tanks BY-105 and BY-106," by June 30, 2003 (missed target date). Tank 241-BY-105 has been interim stabilized. Tank 241-BY-106 continues to be pumped and is projected for completion by September 2, 2003.
- Complete Consent Decree Milestone D-001-00-R17, "Submit to Ecology a Written Report Documenting Tank Interim Stabilization Activities that Occurred During the Third Quarter of FY 2003," by July 31, 2003.
- Complete Consent Decree Milestone D-001-00-R18, "Submit to Ecology a Written Report Documenting Tank Interim Stabilization Activities that Occurred During the Fourth Quarter of FY 2003," by October 31, 2003.

- Complete non-enforceable Consent Decree Target D-001-06-T01, "Complete Pumping of A-101 and AX-101," by September 30, 2003. Tank 241-AX-101 is "in evaluation" to confirm that interim stabilization criteria have been met.

Current Issues and Recovery Actions

The target deadline to complete pumping of tanks U-108, U-107, S-111, and SX-102, our milestone D-001-11-T01, will not be completed by August 30, 2003 based on current pumping projections. Pumping projections are based on the latest estimates of pumpable liquid remaining and the drainage characteristics of the unstabilized tanks. Drainage rates have been slower than originally anticipated. Pumping delays have also occurred due to partial blockage of transfer lines connecting these tanks to the DST system. Efforts will be directed towards maximizing pumping system operations, efficiencies, and flow rates in support of completing the Consent Decree 2 percent pumpable liquid remaining milestone (D-001-00V) by September 30, 2003. The remaining pumpable liquid volume in these tanks are expected to be removed by the dates projected below, and no later than September 30, 2004, in accordance with Consent Decree Milestone D-001-00. The following completion dates are projected:

- 241-SX-102 by September 20, 2003
- 241-U-107 by December 3, 2003
- 241-U-108 by January 17, 2004
- 241-S-111 by May 24, 2004

Target D-001-13-T01, "Complete Pumping of U-111, S-109, S-112, S-101, and S-107," will not be completed by September 30, 2003, based on current pumping projections. Drainage rates for the unstabilized tanks have been slower than originally anticipated. Furthermore, pumping delays have occurred due to partial blockage of transfer lines connecting the unstabilized tanks to the DST system. Efforts will be directed towards maximizing pumping system operations, efficiencies, and flow rates in support of completing the Consent Decree 2 percent pumpable liquid remaining deadline by September 30, 2003. The remaining pumpable liquid volume in these tanks is expected to be removed by the dates projected below, and no later than September 30, 2004 in accordance with the Consent Decree. The following completion dates are projected:

- 241-U-111 has been interim stabilized
- 241-S-109 has been interim stabilized
- 241-S-112 proposed for transition to retrieval mode
- 241-S-107 by October 8, 2003
- 241-S-101 by May 31, 2004

The actual volume of waste pumped during the third quarter was less than calculated by the Target Pumping Projection curve for accelerated completion of the Consent Decree 2 percent pumpable liquid remaining milestone (D-001-00V) by September 1, 2003. The difference (roughly 1/4 of 1 percent) was due primarily to an outage in the S-Farm Complex to support the Tank 241-S-112 retrieval system installation, a power outage in A Farm, SY Farm maintenance activities, and partial blockages in transfer lines connecting unstabilized tanks to the DST system. Pumping in U-Farm tanks was impacted by the need to replace the pump in Tank 241-

U-108 and partial blockages in transfer lines connecting U-Farm tanks to the DST system. Pumping in Tank 241-BY-106 was impacted by delays in completing the transfer of wastes from the 244-BX DCRT to the DST system, jumper changes at 244-A, problems with the 244-BX exhauster, and a failed valve in AB valve pit. The actual volume pumped is expected to catch up to the projected volumes during the next few months and the Consent Decree deadline to remove all but 2% of the pumpable liquid remaining is expected to be completed ahead of schedule.

The annual "hydro" test of the SL-117 transfer line associated with the Tank 241-SX-102 saltwell pumping system has expired. Ecology has issued a waiver for continued operation of the system until October 1, 2003, to maintain continuity of pumping operations in Tank 241-SX-102. The line will then be tested.

Non-enforceable Consent Decree Target D-001-09-T01, "Complete Pumping of Tanks BY-105 and BY-106," by June 30, 2003, was missed. Although Tank 241-BY-105 has been interim stabilized, Tank 241-BY-106 continues to be pumped. Progress has been delayed by jumper changes at 244-A, problems with the 244-BX exhauster, a failed valve in 241-A-B pit, and delayed completion of the 244-BX DCRT waste transfer into the DST system. Completion of pumping in Tank 241-BY-106 is currently anticipated by September 2, 2003.

Issues Expected to Arise in the Next Six Months

The numerical model used to predict pumping durations to interim stabilize each tank is based on best estimates of pumpable liquid volumes, tank waste drainage rates, and operating efficiencies of the saltwell pumping systems. There is considerable uncertainty associated with each of these parameters that result in the numerical model predictions of pumping durations being less than precise. Furthermore, pumping durations can be impacted by unforeseen equipment failures and transfer line plugging. Variations in actual pumping durations can be on the order of plus or minus one or two months. Every effort is being made to keep the saltwell pumping systems operating at maximum efficiencies and flow rates to ensure that the Consent Decree 2 percent pumpable liquid remaining deadline (D-001-00V) is completed on or before September 30, 2003.

ITEM 2: SCHEDULE COMPLIANCE

FY 2003 Consent Decree Milestones

The Consent Decree required that ORP submit a quarterly report to Ecology covering the second quarter of FY 2003 by April 30, 2003. This report was issued on April 29, 2003, under ORP letter 03-TPD-046.

Consent Decree target D-001-08-T01, "Complete Pumping of SX-105, SX-103, SX-101, and U-106," by February 28, 2003, is a non-enforceable target date. The target date was missed because Tank 241-SX-101 experienced a pump failure and other technical difficulties. Tank 241-SX-101 has been interim stabilized and the "Interim Stabilization Evaluation Form" is being prepared by the Contractor to confirm that interim stabilization criteria have been met. Tanks 241-SX-105, 241-SX-103, and 241-U-106 have been interim stabilized.

Consent Decree target D-001-09-T01, "Complete Pumping of Tanks BY-105 and BY-106," by June 30, 2003, is a non-enforceable target date. Although Tank 241-BY-105 has been interim stabilized, the target date was missed because Tank 241-BY-106 was shut down when the 244-BX DCRT reached its full capacity and was awaiting transfer of wastes into the DST system. Various technical problems, a planned power outage, and a valve failure added more delay to the transfer of wastes from the 244-BX DCRT to the DST system. Furthermore, Revision 5 of HNF-2978 indicates that approximately 20,000 gallons of additional pumpable liquids are contained in Tank 241-BY-106. The wastes contained in the 244-BX DCRT have been successfully transferred into the DST system. Tank 241-BY-106 has resumed pumping and will continue until such time as the 244-BX DCRT is full and requires transfer of wastes into the DST system once again.

Consent Decree target D-001-11-T01, "Complete Pumping of U-108, U-107, S-111, and SX-102," by August 30, 2003, is a non-enforceable target date. It is anticipated that this target date will be missed based on current pumping projections reflecting pumpable liquids remaining and tank waste drainage characteristics. Drainage rates have been slower than anticipated and there have been problems with partial blockage of transfer lines connecting the tanks to the DST system. The following dates are projected for completion of pumping:

- Tank 241-SX-102 by September 20, 2003
- Tank 241-U-107 by December 3, 2003
- Tank 241-U-108 by January 17, 2004
- Tank 241-S-111 by May 24, 2004

Consent Decree target D-001-13-T01, "Complete Pumping of U-111, S-109, S-112, S-101, and S-107," by September 30, 2003, is a non-enforceable target date. It is anticipated that this target date will be missed based on current pumping projections reflecting pumpable liquids remaining and tank waste drainage characteristics. Drainage rates have been slower than anticipated and there have been problems with partial blockage of transfer lines connecting the tanks to the DST system. The following is the status or projected dates for completion of pumping:

- Tank 241-U-111 has been interim stabilized
- Tank 241-S-109 has been interim stabilized
- Tank 241-S-112 has been proposed for transition to retrieval operations
- Tank 241-S-107 is projected for completion of pumping by October 8, 2003
- Tank 241-S-101 is projected for completion of pumping by May 31, 2004

Consent Decree Schedule Status

The Consent Decree requires that the percentage of pumpable liquid remaining to be removed will be equal to or less than 2 percent by September 30, 2003. This deadline is expected to be completed ahead of schedule. Furthermore, the ORP will complete interim stabilization of all SSTs by September 30, 2004, in accordance with the requirements of the Consent Decree. As of the end of the third quarter of FY 2003, the estimated percent of pumpable liquid remaining in the unstabilized SSTs is roughly 4 percent (approximately 122,000 gallons) of the originally

estimated probable pumpable volume, and the volume to be pumped to reach 2 percent pumpable liquid remaining is approximately 60,000 gallons.

The ORP remains in compliance with the schedule set forth in Consent Decree Number CT-99-5076-EFS between Ecology (Plaintiff), and the DOE (Defendant). There are several target pumping completion dates that will not be met as discussed previously. These dates are targets only, are non-enforceable, and will not impact the ORP's ability to meet major Consent Decree deadlines for interim stabilization of SSTs.

ITEM 3: SCHEDULE RECOVERY ACTIONS

Emphasis is being placed on increasing the volume of waste pumped by increasing the number of operating saltwells on a daily basis and optimizing their operating efficiencies and flow rates. Planned outages in the A-Farm and S-Farm Complex have been completed. Partial transfer line blockages have been experienced in the A-Farm, S-Farm Complex, and U-Farm saltwell systems. However, flushing operations were conducted to remove restrictions and restore flow rates. The 244-BX DCRT has been emptied several times, and pumping has resumed in Tank 241-BY-106 and will continue until the DCRT is filled and requires additional waste transfers into the DST system. The failed pump in Tank 241-U-108 has been replaced and pumping operations have resumed in U-Farm tanks. In addition, engineering personnel are onsite 24 hours a day, seven days a week (24/7) to ensure that problems are resolved in a timely manner. Work package planners are "on call" and respond within one hour.

ITEM 4: BUDGET/COST STATUS

The FY 2003 Budgeted Cost for Work Scheduled (BCWS) for the Interim Stabilization Project is targeted at \$16 million. Based on the BCWS, the Budgeted Cost of Work Performed and the Actual Cost of Work Performed, performance at the end of the third quarter of FY 2003 was roughly + 3 percent schedule variance (\$340K) and - 24 percent cost variance (\$2,920K).

The major contributing factors to the cost variance are remnants from FY 2003 second quarter and include extra labor applied to early startup and completion of Tank 241-C-103; installation of the new HIHTL between the S/SX Complex and Tank 241-SY-102 in the DST system; caustic cleaning of the U-Farm transfer line; and 24/7 staffing support to ensure continuity of operations and minimize saltwell pumping system down time. In addition, there were unanticipated costs during the FY 2003 third quarter associated with the replacement of the pump in Tank 241-U-108 and other operational problems requiring jumper changes, valve replacements, equipment repairs, and transfer line flushes. The positive schedule variance of roughly + 3 percent is small and within allowable thresholds. The current Interim Stabilization Project "estimate at completion" for FY 2003 is roughly \$18.6 million.

ITEM 5: DOE DIRECTIVES

On April 21, 2003, ORP provided written direction and authorization to CH2M HILL Hanford Group, Inc. to proceed with accelerated retrieval of SSTs 241-S-102 and 241-S-112 under Contract Number DE-AC27-99RL14047 and in accordance with the Hanford Federal Facility Agreement and Consent Order M-45-00 series of milestones. With this directed change, interim stabilization of Tanks 241-S-102 and 241-S-112 is in abeyance and is expected to be made permanent. Adjustments to the interim stabilization pumpable liquid volume estimates and associated pumping targets to meet the 2 percent pumpable liquid remaining deadline by September 30, 2003, or sooner, have been made to reflect the transition of Tanks 241-S-102 and 241-S-112 from interim stabilization to retrieval operations. Appropriate adjustments have also been made to the overall budget profile for the Interim Stabilization Project during FY 2003.



U.S. Department of Energy
Office of River Protection

P.O. Box 450
Richland, Washington 99352

03-TPD-043

APR 21 2003

Mr. E. S. Aromi, President
and General Manager
CH2M HILL Hanford Group, Inc.
Richland, Washington 99352

Dear Mr. Aromi:

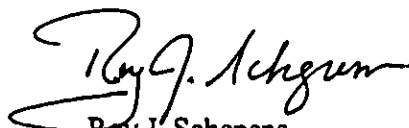
CONTRACT NO. DE-AC27-99RL14047 – AUTHORIZATION AND DIRECTION TO
PROCEED

- References:
1. U. S. DOJ and ORP letter from M. J. Zevenbergen and S. D. Stubblebine, to J. E. Shorin, Ecology, "State of Washington, Dep't of Ecology v. United States Dep't of Energy (E.D. Wash.) No. CT-99-5076-EFS," mjz, 90-7-3-05143, dated, April 18, 2003.
 2. Ecology letter from J. E. Shorin to Michael J. Zevenbergen, and S. D. Stubblebine, U.S. DOJ and ORP, "State of Washington, Department of Ecology v. United States Department of Energy, USDC Eastern District of Washington No. CT-99-5076-EFS, dated, April 18, 2003.

In accordance with the above References, the U.S. Department of Energy, Office of River Protection hereby directs the Tank Farm Contractor, CH2M HILL Hanford, Inc., to proceed with accelerated retrieval of Single-Shell Tanks S-102 and S-112 under the Hanford Federal Facility Agreement and Consent Order M-45-00 milestone series under Contract Number DE-AC27-99RL14047. With this direction, interim stabilization of these two tanks is no longer to be performed so the associated fee in PBI 1 will be reallocated in accordance with Section H.1(d) of the contract.

If you have any questions, please contact me, or your staff may contact Delmar Noyes, Director, Tank Farms Programs and Projects Division, (509) 376-5166.

Sincerely,


Roy J. Schepens
Manager

TPD:AJS